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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,651	08/23/2001	Atsushi Fujisawa	H-1002	8749
7590 01/20/2004				
Mattingly Stanger & Malur P.C. Suite 370 1800 Diagonal Road Alexandria, VA 22314		EXAMINER GRAYBILL, DAVID E		
		ART UNIT 2827		

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/934,651

Applicant(s)

FUJISAWA, ATSUSHI

Examiner

David E Graybill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 15-17 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Claims 15-17 and 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the paper filed 10-14-3.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Miyajima (6344162) and Matsumoto (5309026).

At column 1, lines 36-42; column 4, lines 1-67; column 5, lines 42-54; column 6, lines 1-13 and 59-62; column 7, lines 35-50; column 10, lines 57-64; column 11, lines 34-40; and column 15, lines 60-67, Miyajima teaches a method of manufacturing a resin-sealed type semiconductor device, comprising: the step of preparing a chip supporting substrate 12 having a plurality of device areas; the step of mounting a semiconductor chip 10 on said device areas; the step of connecting the surface electrode of said semiconductor chip and the corresponding electrode said chip supporting substrate through conductive members "wires" ; the step of covering said

plurality of device areas altogether with a cavity 26a, by using a molding tool 21 which is provided with said cavity for covering said plurality of device areas altogether on the chip supporting face side of said chip supporting substrate and protrusions 28 on a cavity forming face forming said cavity; the step of resin-sealing said semiconductor chip by feeding a molding resin 34a to said cavity with said plurality of device areas being covered altogether with said cavity, and forming a block-sealed portion 36 having grooves A-A, B-B formed in the surface by said protrusions; and the step of dividing said chip supporting substrate and said block-sealed portion at the unit of said device areas.

Also, Miyajima teaches a frame member 20a, protrusions formed in a net shape, lattice-shaped protrusions, protrusions corresponding to a plurality of kinds of chip sizes, wherein the supporting substrate is made of a flexible substrate "tape substrate." In any case, all of the substrates taught by Miyajima are inherently flexible to some degree.

However, Miyajima does not appear to explicitly teach the step of connecting a surface electrode of the chip and a corresponding electrode of the substrate through the wire.

Nonetheless, at column 1, lines 57-66, Matsumoto teaches a surface electrode (illustrated in Figure 2 but not labeled) of a chip 2 connected to an

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electrode (illustrated in Figure 2 but not labeled) of a substrate 4 through a wire 5.

Moreover, it would have been obvious to combine the process of Matsumoto with the process of Miyajima because it would facilitate wire connection.

Also, Miyajima does not appear to explicitly teach the various limitations of the grooves in the block-sealed and inner areas.

Nevertheless, at column 1, line 57, to column 2, line 67, Matsumoto teaches these limitations.

Furthermore, it would have been obvious to combine the process of Matsumoto with the process of Miyajima because it would reduce stress.

The combination of Miyajima and Matsumoto also does not appear to explicitly teach the particular limitations of the protrusions that form the grooves in the block-sealed and inner areas.

Still, it would have been obvious to provide such protrusions because Miyajima teaches grooves formed by protrusions, and Matsumoto teaches that the grooves are formed by molding.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

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***Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.***

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947, or after about 02/05/04, (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (703) 872-9306.



David E. Graybill  
Primary Examiner  
Art Unit 2827

D.G.

11-Jan-04